U.S. Department of Transportation
Office of the Secretary of Transportation

GENERAL COUNSEL
400 Seventh St., S.W.
Washington, D.C. 20590

March 8, 1999

Ms. Magalie R. Salas
Secretary, Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Petition for Allocation of N11 Telephone Number for ATIS
RM _____

Dear Ms. Salas:

Enclosed herewith are the original and four copies of the Petition for Rulemaking of the U.S. Department of Transportation referenced above, together with a letter from the Secretary of Transportation, and a computer diskette containing the Petition (in WordPerfect 5.x for Windows). I have also enclosed an additional five copies of these documents for distribution to the individual Commissioners. The attachments that accompany the Petition include relatively bulky published reports, however, and I am informed that in these circumstances only the original Petition need include the attachments. Please contact me if additional copies of these materials would be helpful to the Commission.

Finally, please date-stamp and return to the messenger the extra copy of the petition. Thank you for your assistance in this matter.

Sincerely,

Paul Samuel Smith
Senior Trial Attorney
(202) 366-9285

Enclosures

cc: Anna Gomez,
Network Services Division (w/ attachments)

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

February 25, 1999

The Honorable William E. Kennard
Chairman
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Petition for N11 Allocation

Dear Mr. Chairman:

Through the petition accompanying this letter, the United States Department of Transportation ("DOT") is requesting the assignment of a three-digit telephone access code for use as a nationwide travel information number. This petition is offered not only on behalf of DOT, but all the state, regional, and municipal transportation authorities who serve the traveling public, whether in private automobiles, public transit, or via specialized transportation services. The prospective beneficiaries of the petition encompass virtually the entire population of the United States as well as visitors to our country.

Each year there are more than six million motor vehicle crashes nationally; in the aggregate these result in roughly 5.2 million injuries and 41,000 fatalities. The cumulative human and financial costs are a staggering $150 billion. In addition, congestion on the roadways of the United States is estimated to cost an additional $48 billion in lost time and productivity. Further growth in our economy will only exacerbate these dual costs. This prospect is the driving force behind the nation's concerted effort to build an intelligent transportation infrastructure that enables cities and states to manage their transportation systems more safely and efficiently, to respond faster and more effectively to emergencies, and -- most important for present purposes -- to establish a communications link with the traveling public. Six years of testing has shown that such intelligent transportation system ("ITS") technologies can indeed save lives and time.

A key element of Intelligent Transportation Systems is a communications link by which transportation authorities provide the traveling public with current route- and mode-specific information on, for example, the status of the road network and transit systems. Such information allows travelers to make better choices on

route, mode, and time of travel, which in turn reduces congestion, and enhances safety. This communications link is especially critical when authorities must respond to emergencies ranging from vehicle accidents, fuel spills, or natural disasters.

Although every communications medium is, and will continue to be, employed to disseminate critical information, the one ubiquitous communications channel capable of providing such information to individual travelers is the telephone, both land line and mobile. In fact, at least forty-three states, forty-two metropolitan areas, and over three hundred transit agencies currently operate traveler information systems using the telephone as their primary communications channel. This represents literally billions of dollars in public investment. Unfortunately, almost all of these systems have different telephone numbers. In the Washington – New York corridor alone there are eleven different telephone numbers that an intercity traveler would have to remember to obtain information on the status of traffic and transportation systems. As the accompanying petition and a moment's reflection suggest, this is simply infeasible for the traveling public. National assignment of a single, easy-to-remember three-digit dialing code would overcome this fundamental problem.

In the Intermodal Surface Transportation Efficiency Act of 1991 ("ISTEA") and again in the recently enacted Transportation Equity Act for the 21st Century ("TEA-21"), Congress has charged this Department with the development, promotion, and implementation of ITS nationwide. Congress recognized that this effectively requires national interoperability among these systems, and has directed DOT to include this feature in our country's intelligent transportation infrastructure . The accompanying petition is one means by which we are attempting to fulfill that responsibility. A single, three-digit telephone access code (*e.g.*, 511) would secure that goal for a fundamental communications link between transportation system managers and users.

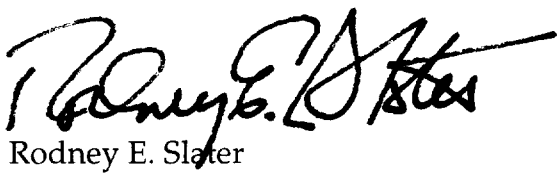
I am well aware that such so-called "N11" numbers are a scarce resource, allocated only for those uses that serve important needs of a broad public. The accompanying petition shows how such an allocation would meet that criterion, since it would aid virtually every citizen through thousands of state and local transportation authorities across the country. This communications channel will provide an important service to millions on a daily basis, and serve as an additional resource during emergencies.

There are substantial resources and investment, both public and private, already in place with products and services to implement a national N11 assignment. Moreover, I anticipate that major organizations representing transportation officials across the country (such as the American Association of State Highway

and Transportation Officials and the American Public Transit Association) will actively support DOT's petition.

In accordance with Congress' instructions and on behalf of transportation authorities throughout the United States, I therefore urge the Federal Communications Commission to give positive consideration to this petition. It represents a key step not only in executing our statutory responsibilities, but also in enhancing the safety and efficiency of the nation's surface transportation network.

Sincerely,



Rodney E. Slater

cc: Commissioner Susan Ness
Commissioner Harold Furchgott-Roth
Commissioner Michael Powell
Commissioner Gloria Tristani

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Petition by the United States Department	)	
of Transportation for Assignment of an	)	RM _____
Abbreviated Dialing Code (N11) to Access	)	
Intelligent Transportation System (ITS)	)	
Services Nationwide	)	

PETITION FOR RULEMAKING OF THE UNITED STATES DEPARTMENT OF TRANSPORTATION

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March 8, 1999

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Services Nationwide	)	

PETITION FOR RULEMAKING OF THE UNITED STATES DEPARTMENT OF TRANSPORTATION

I. SUMMARY

The United States Department of Transportation ("DOT" or "Department") hereby petitions the Federal Communications Commission ("FCC" or "Commission") for the assignment of a nationwide standard abbreviated dialing number ("N11") for use by state and local governments in the delivery of travel-related information to the public. This information (such as the status of roadway construction, accident locations, and alternative routes) is already being provided by state and local governments across the country. One of the most common means of conveying this information is by telephone. Unfortunately, in most instances, each municipality and transportation agency has its own telephone number for this purpose. This has greatly constricted the benefits otherwise available through the use of travel-related information, and it threatens greater harm in the future.

Travelers, whether commuting within a metropolitan area or moving across broad interstate regions, must learn an increasing proliferation of telephone numbers to gain access to information that could facilitate their journeys. Studies indicate that those who obtain this information use it, and use of this information conveys substantial public and private benefits: increased efficiency, reduced vehicular congestion and pollution, lower fuel consumption, superior traffic management, and enhanced safety. Indeed, the greater the use, the greater the benefits. The assignment of a single abbreviated dialing code nationwide would eliminate a fundamental bottleneck now hindering widespread access to and use of travel-related information. It would also advance the goal of Congress and the Administration of improving the national transportation infrastructure through intelligent transportation systems ("ITS") rather than through traditional roadbuilding programs. We therefore request that the FCC allocate a N11 number to state and local governments for use by advanced traveler information systems, as described below.

II. INTRODUCTION

State and local governments across the country are spending billions of dollars to instrument the nation's roads as part of the widespread deployment of intelligent transportation systems. Their objective is to provide real-time information on the exact status of roadways so as to allow better traffic and travel management and to provide the traveling public the information necessary to allow more informed choices on how and when to travel. This investment is necessitated by three major factors related to our transportation system. First, roads are becoming ever more congested in metropolitan areas. Second, the traditional solution to this problem, building more roads, is no longer

feasible for economic and other reasons. Third, the death and injury toll on our roads continues to rise, with 6 million accidents, 5.2 million injuries, and 42,000 deaths each year. The cost of these factors approximates $200 billion annually.

Transportation officials are turning to technology to alleviate these problems. Traveler information systems generally provide one of the key services that dramatically decrease traffic congestion, reduce air pollution and inefficient use of fossil fuels, improve the nation's productivity both on and off the roadways, and even improve traveler safety. Advanced traveler information systems ("ATIS") are state-of-the-art information networks that provide real-time, route-specific information on all modes of surface travel. These services enable commuters, commercial vehicle operators, business travelers and others to make smarter decisions on when, where, and how to reach their destinations. Users access up-to-the-minute information regarding highway conditions, incidents, and transit schedules through existing and evolving communications technology. The benefits of advanced traveler information systems already have been demonstrated in deployments across the country. These first generation systems are also engendering public acceptance of, and familiarity with, ITS services and demonstrating the many public benefits attainable from widespread ITS implementation.

Congress first expressly recognized the promise and the demonstrable benefits of these services in the Intermodal Surface Transportation Efficiency Act of 1991. Pub.L. 102-240, 105 Stat. 1914 (1991) ("ISTEA"). [1] Last year's passage of the Transportation Equity Act for the 21st Century ("TEA-21") reaffirmed this commitment to ITS

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[1]/ *See especially* Title VI, Part B (the "Intelligent Vehicle-Highway System Act of 1991"), *codified in pertinent part at* 23 U.S.C. § 307 note.

development and deployment. Pub.L. No. 105-178, 112 Stat. 107 (1998). [2] There Congress directed the Department "[t]o the maximum extent practicable" to "promote interoperability" among ITS services nationwide through standards and rulemakings. Id. at § 5206(a)(2); *also* §§ 5206 and 5208(a). The assignment of a uniform, easily remembered, abbreviated dialing code would greatly assist our execution of this responsibility.

Alternatives to the instant petition have failed to produce the desired goal of encouraging widespread use of ATIS, and thus these systems generally have not realized their full potential impact on traffic congestion and the environment. Unfortunately, one of the most serious impediments to greater use of these services has been the inability of the general public to recall the ATIS telephone number, which is usually different in each city where such systems are available. Moreover, the number that must be dialed often differs between communications providers within the same city. Due to the introduction of new wireless and Local Exchange Carriers in each metropolitan area, the proliferation of telephone numbers is becoming an ever-expanding obstacle to meeting the national objectives for ITS. Studies performed on usage patterns have shown that in many instances the overwhelming majority of calls made to an ATIS service originated from a service provider that agreed to make an abbreviated dial number available. However, joint public and private efforts to obtain a uniform abbreviated number from both the wireless and wireline providers within areas currently served by ATIS have failed. Even

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[2]/ *See especially* Title V, Subtitle C (the "Intelligent Transportation Systems Act of 1998"), *codified in pertinent part at* 23 U.S.C.§ 502 note.

transportation agencies that have been successful in obtaining the same seven-digit number for ATIS from providers in metropolitan areas with multiple area codes are on the verge of losing that uniformity as area codes proliferate.

The public and private sectors will spend an estimated $425 billion on ITS projects in the United States by the year 2015. ATIS systems are being and will continue to be widely deployed across the U.S. Therefore, an informational infrastructure already exists in most states, and assignment of an N11 number could be implemented relatively expeditiously. Transportation agencies and travelers across the country would welcome such an allocation.

Accordingly, the Department requests the Commission to aid in the accomplishment of the national intelligent transportation infrastructure. Assignment of a standard abbreviated dialing number would stimulate the widespread deployment and use of travel-related information in a timely and sensible fashion, and help to maximize the benefits of ATIS. Pursuant to the Commission's rules, DOT hereby petitions the Commission to commence a rulemaking proceeding to assign a nationwide standard abbreviated dialing code for Advanced Traveler Information Systems. 47 C.F.R. § 1.401. As shown herein, the requested assignment would enhance the efficiency of the existing transportation infrastructure, improve mobility, reduce traffic congestion and air pollution, help realize billions of dollars of gain in economic productivity, and allow quicker emergency incident response from public safety agencies.

III. BACKGROUND

A. The Nation's Transportation System Faces Increasing Burdens

Although ITS has long been the subject of research and development, the last decade has seen explosive growth in both the need for and deployment of intelligent transportation systems. Much of this growth is due to the enormous transportation and mobility challenges facing the nation today, and effective use of ITS will be critical in meeting those challenges.

Each year the Texas Transportation Institute produces a study of the extent and effects of vehicular congestion in urban areas. The most recent edition traces the parameters of congestion and its consequences from 1982 to 1996; it found that motorists in more than one-third (twenty-eight) of the seventy areas studied spent the equivalent of at least one work week per year in traffic jams in 1996. Texas Transportation Institute, *Urban Roadway Congestion: Annual Report* (1998) at 47; also see 50 - 56. (Attachment 1 hereto.) The greatest annual delay for drivers was 82 hours in the Washington, D.C. area. Id. In terms environmental and economic impact, traffic congestion in these areas resulted in a waste of over 6.7 billion gallons of fuel and a combined congestion cost of $74 billion in 1996. Id. at 77 and 93, respectively; also pp.80 – 90 and 96 – 105. Washington, D.C. has the highest annual per driver congestion cost at $1,290. Id. at 93. Even more alarming, such figures are on the rise. Id., *passim*.

Overall, the number of vehicle miles traveled by Americans doubled from one trillion to two trillion in the last thirty years, and is forecast to double again in the next

thirty years. [3] Two-thirds of peak-period travel in urban areas is now congested; this figure is growing, particularly for those areas that are already the most severely congested. [4] Locally, a recent study from the Greater Washington Board of Trade predicts that by 2020 Washington area commuters will each spend another 100 hours per year in traffic congestion; in addition to its inherent costs, this situation will add $345 million to the shipping costs of the local trucking industry alone. [5]

Transportation inefficiencies contribute to other problems as well. For example, emissions from transportation sources account for 43% of total emissions of nitrogen oxides, 31% of hydrocarbon emissions, and 66% of carbon monoxide emissions in the United States. [6] Approximately one-half of the population of the United States lives in regions exceeding federal standards for smog, and one-third of the population lives in areas exceeding federal carbon monoxide standards. Id. In addition, transportation sources are the nation's biggest consumer of energy, accounting for 27% of total energy consumption and 63% of petroleum consumption in 1989. Id. Approximately two billion gallons of fuel are wasted annually due to traffic congestion. Id.

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[3]/ Gary Euler and H. Douglas Robertson, *National ITS Program Plan,* Vol. II (1st ed., March, 1995) at 47. The complete *Plan* is included as Attachment 2 hereto. By contrast, from 1960 to 1987, the number of new highway miles increased by only nine percent. ITS America, *Strategic Plan for Intelligent Vehicle-Highway Systems in the United States*, (1992) at II-10. Attachment 3 hereto.

[4]/ Attachment 1 at xv.

[5]/ The Greater Washington Board of Trade, *Transportation Study 1997*, Executive Summary at 7 and Report 3 ("The Cost of Not Meeting the Region's Transportation Needs") at 4. Both the Executive Summary and Report 3 are included as Attachment 4 hereto.

[6]/ ITS America, *Strategic Plan,* supra, at II-12.

Construction of new roads alone will not solve these problems. Congress has declared in no uncertain terms that the era of massive road construction and expansion is over. [7] Congress has also recognized that the construction of more roads on this scale would not in any event address the severe air pollution problems found in many parts of the country. [8] Thus, Congress in 1991 turned to intelligent transportation systems as a clean, safe, and affordable way to help alleviate the mobility, environmental, and other vexing problems of the nation's surface transportation system. Through the experience gained under ISTEA, Congress and the Administration concluded that intelligent transportation systems have demonstrated the ability to mitigate environmental, commercial, and other problems in surface transportation, and through TEA-21 ordered that development and implementation of ITS be accelerated. [9]

B. Alleviation of These Burdens Through Intelligent Transportation Systems Technology

The Intermodal Surface Transportation Efficiency Act of 1991 codified as national policy

> the development of a National Intermodal Transportation System that is both economically efficient and environmentally sound, that provides the foundation for the Nation to compete in the global economy, and will move people and goods

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[7]/ P.L. 102-240 at § 2 ("[p]ractices that resulted in the lengthy and overly costly construction of the Interstate and Defense Highway System must be confronted and ceased"); also notes 1 and 2, *supra*.

[8]/ *See* ITS America, *Strategic Plan*, supra, at II-12.

[9]/ Pub. L. No. 105-178, 112 Stat. 452-53, §§ 5202-03.

> in an energy efficient manner ... [and that] shall be adapted to "intelligent vehicles"... and other new technologies wherever feasible and economical.

Pub. L. No. 102-240, § 2, *codified at* 49 U.S.C. § 101 note, *reenacted as* 49 U.S.C. § 5501(a),(b)(7) (1994).

To carry out this policy, Congress established a national ITS program in the Department of Transportation. The program's mission, as defined in ISTEA, is to achieve:

> (1) the widespread implementation of "intelligent vehicle-highway systems;"
> (2) the enhancement ... of the efforts of the several States to attain air quality goals ...;
> (3) the enhancement of safe and efficient operations of the Nation's highway systems ...;
> (4) the development and promotion of ... an intelligent vehicle-highway systems industry in the United States...;
> (5) the reduction of ... traffic congestion; [and]
> (6) the enhancement of United States' ... competitiveness ... by establishing a significant United States presence in an emerging field of technology...

23 U.S.C.§ 307 note, 105 Stat. 2189-90, at § 6052(b).

In 1996, the Administration set a goal of deploying integrated ITS infrastructure across the United States. To that end, DOT developed a national architecture and pursued an aggressive course, establishing nearly 100 standards based upon industry consensus. *See* Attachment 9. This petition is one more step in that overall strategy.

Congress authorized funding of $1.2 billion through 1997 to test and deploy ITS systems. [10] The successor legislation to the ISTEA, the Transportation Equity Act for the

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[10]/ Id. at § 6058. To develop and deploy ITS, Congress appropriated over $222 million in fiscal year 1996 alone and over $800 million in the last five years. H.R. Report No. 104-177 at 82, Department of Transportation and Related Agencies Appropriations Bill (1996).

21st Century, requires the Secretary of Transportation to develop supporting standards and protocols to promote widespread use of ITS as a component of the surface transportation systems of the United States. Pub. L. No. 105-78, § 5206, 112 Stat. 456, *codified at* 23 U.S.C.§ 502 note, (1998). TEA-21 also requires the Secretary to establish critical standards to ensure national interoperability of ITS user services. Id. Use of approved standards is in the process of being established as a prerequisite for federal aid funding on certain ITS projects. Id. Finally, TEA-21 identifies the development of travel information systems for ITS as a priority. 23 U.S.C. § 502 note, § 5207 (1998) .

IV. THE PUBLIC BENEFITS OF ATIS SERVICES

A. Traveler Information Needs

Intelligent transportation systems achieve benefits through the integration of advanced vehicle communications with various infrastructure systems. Telecommunications form the backbone of all ITS applications, which rely heavily on the swift and accurate conveyance of information. Today, Commercial Mobile Radio System carriers, TV, radio, Internet, and Public Switched Telephone Network-based service providers are increasingly providing ITS and ITS-related services such as advanced travel information, which includes pre-trip and en-route driver information.

Pre-trip and en-route driver information provides drivers with real-time advisories about traffic conditions, accidents, road construction and transit schedules. This information is location-specific, and potentially even traveler-specific, and is available by telephone more quickly and reliably than via generalized traffic reports on radio and television. The resulting trip is quicker and even safer for the driver; he or she knows in

advance where problem areas are and can alter the route or delay the start of a trip. The immediate availability of information about alternate routes can also materially aid safety by assisting emergency response vehicles. In general, ITS traveler information services such as en-route driver information can reduce vehicle traveling time by five to twenty percent. [11]

Recent studies confirm the need for ATIS services. A survey conducted in the New York metropolitan area indicates that nine out of ten drivers support building an advanced traveler information system. [12] Survey participants stated that the most valuable improvements would be real-time information on the location and extent of delays and traffic congestion, travel times using various alternate routes, and the arrival times of the closest mass transit vehicles. [13] A similar survey in Minneapolis-St. Paul found that metropolitan region drivers most strongly desired accurate and up-to-date information on accidents, construction, traffic volume, and weather. [14] Specifically,

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[11]/ U.S. Department of Transportation, *Operation Time Saver: Building the Intelligent Transportation Infrastructure*, at 6 (1996). Attachment 5 hereto.

[12]/ P. Harris and C.S. Konheim, "Public Interest In, and Willingness to Pay for, Enhanced Traveler Information as Provided by IVHS in the New York Metropolitan Area," *Proceedings of the 1995 Annual Meeting of ITS America*, Vol. 1 at 247, 248 (March 1995). Attachment 6 hereto.

[13]/ Id. at 249.

[14]/ G. M. Silverman and M. Sobolewski, "ITS Market Analysis: Minnesota Guidestar's Genesis Project," *Proceedings of the 1995 Annual Meeting of ITS America*, vol. 2 at 947, 951 (March 1995). Attachment 7 hereto.

participants wanted to know the precise location of bottlenecks, lanes affected, alternative routes with anticipated travel times, road conditions, and the length of delay. [15]

Services to meet these needs, in even limited respects, have been hampered by lack of a uniform telephone number to access the available information. At least 43 states and 42 major metropolitan areas, and over 100 transit agencies, currently operate traveler information systems using the telephone as the primary communications medium. Virtually each one of them has a separate telephone number, and in most cases there are different telephone numbers for traffic, transit, and other related information in the same metropolitan area.

Through the implementation of ITS, these services are moving to ATIS systems that rely on the use of real-time information. This has stimulated a new and growing industry that collects, compiles, and disseminates real-time traffic and transit information of the sort that can truly alleviate problems associated with traffic congestion. For example, the "Partners in Motion" program is demonstrating the benefits of ATIS at a time of unprecedented congestion and air quality problems in the Washington, D.C. metropolitan area. This public-private partnership is creating a state-of-the-art information network that provides on-demand, location-specific traffic and transit

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[15]/ Id.; see also R. Sivanandan, M. Sobolewski, J. Kiljian, D. Warren, "An Assessment of Rural Traveler Needs for ITS Applications," *Proceedings of the 1995 Annual Meeting of ITS America*, Vol. 2 at 659, 664 (March 1995) (a nationwide survey found that the biggest concerns of rural travelers were (1) the ability to transmit a "Mayday" signal when a problem occurred en route, and (2) the ability to obtain en route information on road closures, congestion, approaching hazards, and to alert drowsy drivers). Attachment 8 hereto.

information over the telephone, using a system deployed earlier in the Boston, Cincinnati/Northern Kentucky, Philadelphia, and Bridgeport, Connecticut areas.

In all of these regions, travelers get up-to-the-minute, route-specific travel information from any touch tone or cellular phone, enabling them to make optimal choices relative to their time, route, and mode of travel. Access via a short, uniform calling code dramatically enhances the use of and benefits from these services. Data provided by SmarTraveler, the ATIS provider in both Cincinnati/Northern Kentucky and the Washington, D.C. areas, is illustrative. SmarTraveler reports to DOT that in the Washington area from January through October of 1998, it received a total of 168,709 telephone calls for travel-related information. More than two-thirds of these came via wireless systems using an abbreviated dialing code (#211); the remainder came via traditional wireline phones using a ten or seven digit number. The Cincinnati area's experience evidences even more clearly the benefits of such a code. There, #211 is used for wireline ATIS calls and *211 is used for wireless ATIS calls; over the same time period SmarTraveler received nearly 900,000 requests for information (571,710 wireline and 326,225 wireless calls).

These are not isolated examples. Southern California instituted a multi-agency multimodal traveler information system just after the 1994 Northridge earthquake. It expanded in 1995 to five counties in Southern California, and spread into Northern California. All counties share a common telephone number for rail, transit, ridesharing, highway conditions, bikeways and telecommuting. In May of 1994, the system received 13,340 calls. By May of 1997, the California Department of Transportation reports to

DOT, that volume had grown to 190,000. During summer months, call volumes exceeded 240,000 per month.

B. ITS, ATIS, and The Public Interest

Intelligent Transportation Systems apply computer and communications technology to the field of transportation. ATIS is an important component of ITS, for it promises to influence the daily behavior of millions of travelers throughout the U.S. The Commission has taken several steps in the last few years to help foster ITS development and deployment, consistent with its mandates to "promote the safety of life and property" and to "encourage the provision of new technologies and services to the public." [16] Recent FCC activities with the most direct impact on ITS include the allocation of spectrum for location and monitoring services, the activation of wireless enhanced 911, the allocation of spectrum for unlicensed collision avoidance radars, and the evaluation of public safety wireless communication needs through the year 2010. [17] Particularly germane to the instant petition was the Commission's proposal to allocate spectrum for dedicated short-range communications (an ITS application) in the 5.850-5.925 MHz band in response to a petition from ITS America. RM-9096. In each of these dockets, the FCC has accepted the safety- and efficiency-enhancing benefits of various ITS technologies.

Historically, it has been the responsibility of the public sector to create an efficient and effective transportation system that allows for the smooth flow of people

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[16]/ 47 U.S.C. §§ 332(a)(1) and 157(a), respectively.

and goods. ATIS contributes substantially to the public sector's effort to carry out this responsibility.

In addition to traffic management benefits, ATIS also offers the prospect of improved air quality. The Clean Air Act, as amended, imposes air quality standards and a time frame in which they must be met. 42 U.S.C. §§ 7407 *et seq*. States and regions that have not attained the prescribed levels must adopt measures to restrict pollution from various sources, and motor vehicles and their use is a common target. 42 U.S.C. §§ 7506-09, 7521-54. ATIS can reduce vehicle delay and congestion, and thus the pollutants they cause.

The Massachusetts Department of Transportation ("MassDOT") offers objective evidence of the value of ATIS in improving traffic management and air quality. MassDOT has informed DOT that (1) user satisfaction with ATIS is very high, and (2) use of ATIS directly influences travelers' behavior. According to MassDOT, 85% of users rated the service "8" or better on a scale of 1-to-10, 63% of users avoided traffic problems, and 59% of users saved time. Moreover, 48% of users indicated that information received from ATIS influenced their travel-related decisions; 14% changed their time of departure, 12% used a different route, and 2% cancelled trips altogether.

These and other data make clear that ATIS services have the ability significantly to enhance efforts to reduce congestion, to increase mobility, to reduce air pollution, and to improve safety on the highways. They also lend additional support to a fundamental truth that ATIS shares with ITS services generally: the greater the use, the greater the

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[17]/ PR Docket No. 93-61, CC Docket No. 94-102, ET Docket No. 94-124, and WT Docket No. 96-86, respectively.

benefits. The challenge that remains is to teach the great mass of travelers a new behavioral pattern: to learn to access an up-to-the-minute, telephonically delivered database of traveler information before making travel and routing decisions. The section that follows discusses why the assignment of an abbreviated dialing code (N11) for ATIS purposes is an appropriate means to promote greater use of and secure additional benefits from these information services.

V. OBSTACLES TO GREATER USE OF AND BENEFITS FROM ATIS

Abbreviated dialing codes, particularly when used on a national basis, constitute a scarce public resource. They are reserved for important public services such as emergency assistance (911) and non-emergency police assistance (311). In the Matter of The Use of N11 Codes and Other Abbreviated Dialing Arrangements, First Report and Order and Further Notice of Proposed Rulemaking, CC Docket No. 92-105, FCC 97-51, (released February 19, 1997). National allocations allow broad access to publicly-sponsored information in order to provide an important public benefit. Id. [18]

ATIS is a publicly-sponsored service providing both private and public benefits. N11 access would provide an immediately remembered and universally understood access to this transportation-oriented public service. Like the now-utilized N11 numbers that have become part of our national knowledge base (*e.g.* 911), users would soon come to understand as well that an abbreviated dialing code would allow access to on-demand

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[18]/ The same appears to be true of N11 numbers that are not technically allocated on a national basis, but are *de facto* used nationwide for access to essential services like telephone company information, and so forth.

traffic information everywhere in the country. For example, over the last ten months, a period in which the Cincinnati/Northern Kentucky ATIS system began to use such a code (211), call volume doubled from 50,000 to 100,000 calls per month. *ITS America News*, Vol. 8 No. 9 (September 1998) at 2. Attachment 10 hereto. [19]

It is hardly surprising that, after nearly four years of ATIS operation in Massachusetts, MassDOT found that both the lack of awareness of and inability to recall the seven-digit phone number were the biggest barriers to ATIS usage by the traveling public, despite efforts to select a mnemonic phone number and despite millions of dollars spent to promote the seven-digit number. Users of mobile telephones, who only had to dial "*1," were more likely to know the telephone number than land-line users (88 percent vs. 61 percent who had to know a seven-digit number). Non-users of ATIS in that area had only very limited knowledge of the telephone number. While 71 percent of all users could correctly state the phone number, only 5 percent of the non-users who were aware of the ATIS system could do so. Ignorance of the phone number was thus a serious impediment to both trial and use, and the more lengthy the number, the greater the likelihood of ignorance.

Expanding demand for additional telephone numbers increasingly forces local phone companies to resort to additional area codes, overlapping area codes, mandatory

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[19]/ Assignment of N11 to ATIS also implies a safety factor that must be considered. Although transportation officials actively discourage the use of mobile telephones by drivers while their vehicles are in motion, this form of usage is commonplace. Dialing seven to ten digits to reach ATIS services while driving thus presents a potential safety hazard that could be reduced through allocation of a three-digit code for this purpose.

ten-digit dialing, and the like. These circumstances can only serve to discourage ATIS use, as more and different numbers apply to ever-smaller geographic areas.

The Metropolitan Transportation Commission ("MTC") in California is responsible for providing ATIS in the San Francisco Bay area and in Sacramento. MTC has been successful in obtaining a common seven-digit number (817-1717) in all four area codes in this region (408, 415, 510, and 707). MTC reports to DOT that reserving the same number in all California area codes (under a Pacific Bell program called "California Calling") would result in significantly lower operating costs than using a 1-800 number (these costs are paid out of public funds from the state transit assistance program). Unfortunately, these area codes are scheduled to be split due to the growth of portable phone use in the region, and the California-Nevada Code Administration has informed MTC that it cannot reserve that number for Pacific Bell. The MTC is now faced with the reality that it may have to move from a uniform number over a relatively broad geographic region to multiple phone numbers in the same geographic area. This will entail the usual costs associated with re-educating the public, and experience suggests that use of ATIS services will likely decline, to the public detriment.

The proliferation of communications companies and media, although of substantial benefit in many respects, is another factor compounding the difficulties in promoting ATIS use in the absence of a national N11 allocation. Currently in the Washington, D.C.-New York City corridor there are eleven different telephone numbers through which to obtain traffic and transit status. [20] The ATIS providers in this large and

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[20]/ For example, Philadelphia currently uses (215) 567-5678 and Washington now uses (202) 863-1313.

mobile area are working with communication companies in several deployment regions to establish access to ATIS via "211." Although successful in temporarily obtaining #211 for mobile telephones from Cellular One, Bell Atlantic Mobile, and Sprint Spectrum, efforts to obtain 211 from Bell Atlantic for landline use have failed. In addition, with the introduction of ATT Wireless and Nextel mobile services in Washington, D.C., negotiations must now commence with these two new carriers to get them to assign the same number as the other carriers. The introduction of new wireless carriers combined with deregulation of local exchanges have created a situation where ATIS providers must undertake negotiations with many individual carriers in every market. The potential clearly exists for multiple numbers in each city, and hundreds of numbers nationwide to provide access to telephonically delivered ITS services. It is frankly inconceivable that the traveling public, and in particular long distance travelers, would be able to know or even learn of all the pertinent numbers. Without a national assignment for access to ATIS, the nationwide, interoperable access to ITS user services envisioned by Congress will be greatly impeded.

Finally, N11 numbers are nationally recognized icons, a hallmark of particularly important telephone communications, as distinct from simple commercial or private use. In the Matter of The Use of N11 Codes, *supra*. Designation of an N11 number thus would make a powerful statement to the traveling public that ATIS is something important and useful and reliable. It would thereby further the basic intent of the TEA-21 legislation: to pursue standards that will improve the efficiency of surface transportation.

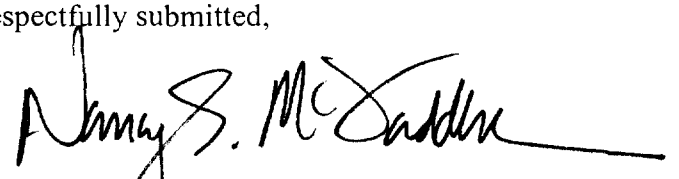
V. CONCLUSION

Surface transportation difficulties are growing, yet the era of massive road construction and expansion is clearly over. Congress and the Administration have specifically identified intelligent transportation systems as the preferred alternative to alleviate the safety, mobility, and environmental problems impacting the nation's surface transportation system. To this end, Congress has charged the Department, and in some cases the Commission, with advancing the development and deployment of ITS technologies. The benefits of ATIS have been proven already in deployments across the country. The continued operation and expansion of these systems is thus instrumental to the accomplishment of Congressional and Administration objectives.

It cannot be overemphasized that the more ATIS is used, the greater its benefits in terms of reduced travel time, congestion, and air pollution. It is also important for public safety agencies to be able to inform the public, in real time, of the location and status of travel hazards. One of the most serious impediments to wider use of ATIS is the inability of the general public to rely upon a simple, easy-to-use telephone number. Numbers that differ among communications providers in each city where ATIS systems are available hinder the use of those systems and limit their benefits. The relatively few areas successful in obtaining such uniform, simple numbers face an increasing risk of losing them due to the increasing demand for telephone numbers and other circumstances. The only practical way to address these issues and to meet the goals of ITS is the national assignment of an abbreviated dialing code. This assignment is clearly in the public interest, and promises significant benefits, direct and indirect, to potentially every person in the United States.

For these reasons, the Department urges the Commission expeditiously to commence a rulemaking proceeding for the assignment of a nationwide abbreviated dialing code to state and local governments for use by advanced traveler information systems.

Respectfully submitted,



NANCY E. McFADDEN

General Counsel

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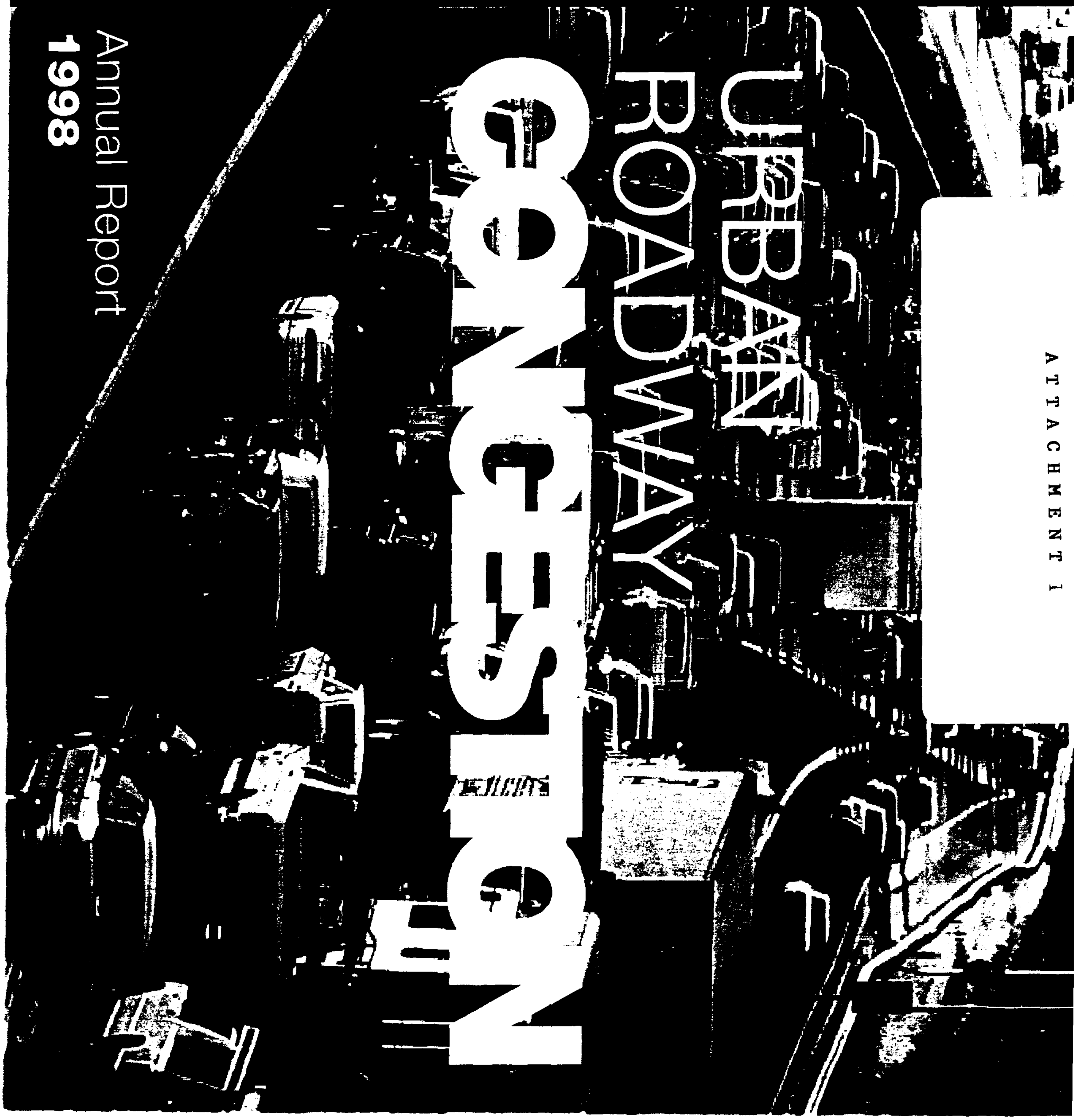
Department of Transportation **Washington** Department of Transportation *Texas Transportation Institu*



URBAN ROADWAY CONGESTION

Annual Report
1998

ATTACHMENT 1

ATTACHMENT 2

NATIONAL ITS PROGRAM PLAN

INTELLIGENT TRANSPORTATION SYSTEMS

VOLUME I

EDITED BY

GARY W. EULER
H. DOUGLAS ROBERTSON

FIRST EDITION
March 1995

ATTACHMENT 2

NATIONAL ITS PROGRAM PLAN

INTELLIGENT TRANSPORTATION SYSTEMS

VOLUME II

EDITED BY

GARY W. EULER

H. DOUGLAS ROBERTSON

FIRST EDITION

March 1995

ATTACHMENT 3

STRATEGIC PLAN FOR

Intelligent Vehicle-Highway Systems

in the United States

Prepared by IVHS AMERICA
May 20, 1992

Executive Summary

Board of Trade Transportation Report Series
1. History and Current Conditions
2. Regional Forecasts and CLRP Adequacy Assessment
3. Economic and Quality of Life Costs of Not Meeting Transportation Needs
4. Highway and Transit Solutions
5. What Better Transportation Will Cost and How to Pay for It

Transportation Study 1997

Establishing The Right Priorities

The purpose of the 1997 Transportation Study is to establish a body of factual information to stimulate regional consensus as to what must be done to meet the region' looming transportation crisis. The Study Team's charge was to examine, evaluate and present the best available data from the Metropolitan Washington Council of Governments, federal agencies and other official sources.

In the 1960s, planners defined the region's transportation priorities in terms of a balanced network of nine radial corridors, three limited access circumferential connectors new Potomac Bridges and a comprehensive transit system.

Since that time, much of the transit network has been completed, while more than 1500 lane miles of planned roads have been eliminated. The region is expected to add more people in the next 25 years than it did in the last 25 years, and daily miles of travel are expected to increase by 80% on a highway network that, under the current financially Constrained Long Range Plan (CLRP) will increase by only 20%.

While the region ranks first nationally in carpooling and third in transit ridership, it is clear, that the removal of highway and bridge projects from previous regional plans has produced the fifth smallest highway network and is directly responsible for the region's commuting times and congestion costs being among the nation's highest.

Funding The Right Priorities

The cost of making up lost ground by constructing facilities that should have been built years ago will be expensive, yet represents only a fraction of the hundreds of billions of dollars in economic and quality of life losses that will be incurred if the region continues to invest only at current levels.

The region has substantial financial resources at its disposal. Coupled with expanded federal and state investment, the region can fund a transportation network that works.

Investment must focus on regional facilities that will move the most people and goods in the most time-efficient and cost-effective manner.

Implementing The Right Priorities

Above all, meeting the transportation challenge requires the political will to implement the right priorities. The region must shun *"political correctness"* and parochialism that focus on narrow and limited issues and address broader regional development and economic requirements. Intelligent land use planning and proven technology are part of long-term solution. Transit investments must be protected and expanded where demonstrated demand exists.

However, most people will continue to live in single family homes at relatively low densities and employment opportunities will continue to decentralize. Transit will provic limited service to these markets. For the foreseeable future, the conclusion is unavoidabl that the region's fundamental transportation need is to significantly expand highway and bridge capacity to improve interconnectivity.

U.S. Department of Transportation

ATTACHMENT 5

Building The Intelligent Transportation Infrastructure

ATTACHMENT 6

PUBLIC INTEREST IN, AND WILLINGNESS TO PAY FOR, ENHANCED TRAVELER INFORMATION AS PROVIDED BY IVHS IN THE NEW YORK METROPOLITAN AREA

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Peter Harris Research Group, Inc.
New York, NY

Carolyn S. Konheim, President
Konheim & Ketcham, Inc.
Brooklyn, NY

ABSTRACT

As part of developing a strategy for implementing an intelligent vehicle-highway system (IVHS)/intelligent transportation system (ITS) in the 16-county New York metropolitan area, a survey was conducted on travelers' attitudes regarding availability of real-time information on travel conditions. The telephone survey, conducted among a proportionate cross-section of travelers in the region, identified a high level of support for enhanced traveler-information systems among all commuters and a strong willingness by travelers of all income groups to pay for access to the improved information. The survey indicated substantial interest in a variety of traveler-information enhancements, including computerized maps and travel directions as well as real-time information on current delays and estimated travel times on alternate routes and on competing forms of transportation.

The survey found that travel information is highly functional: Travelers *use* it, and the more they have access to high-quality, reliable information, the more likely they are to use it. Although the predominant response to current information is to alter departure times and travel routes, and change modes only if significant delay is predicted, survey respondents showed a strong propensity to increase trip making by transit if reliable information were provided equally for transit and roadways. In part, this reflects the current imbalance in the availability of traveler information. Up-to-date, functional travel information that travelers can act on is more readily available to motorists than it is to mass transit travelers. This imbalance is unlikely to be corrected in the near future. The most popular means for obtaining traffic information, dedicated radio stations and variable-message signs, are closer at hand than the electronic displays of actual arrival and travel times that bus and train users favor.

INTRODUCTION

The need for improved travel-information services was identified in interviews with the 16 transportation agencies in the tri-state service region of New York, New Jersey, and Connecticut that constitute the consortium known as TRANSCOM. The interviews were conducted as part of a study by James H. Kell & Associates (JHK) to develop a regional IVHS/ITS strategy. JHK subcontracted with Peter Harris Research Group, Inc. to survey public attitudes toward enhanced travel-information services. The study was managed by another consultant on the JHK team, Konheim & Ketcham, Inc. Primary purpose of the survey was to measure the extent of the public's interest in, and willingness to pay for, specific major enhancements to the existing travel-information network that would be possible through use of advanced computer technology.

CHARACTERISTICS OF THE SURVEY SAMPLE

The telephone survey was conducted during the period March 18-29, 1994, and involved 1,002 peak-hour travelers residing in the tri-state region. The sample for the survey was drawn in proportion to the distribution of households throughout the region. Commuters were given priority in the survey because TRANSCOM was particularly interested in travelers' need for travel information during periods of peak travel demand. The 1,002 interviews were comprised of 867 commuters and 135 noncommuters who took a nonwork trip during the previous seven days. It included 689 people who travel most often during the peak period, including 408 peak-period motorists, 271 peak-period mass transit users, and

ITS MARKET ANALYSIS: MINNESOTA GUIDESTAR'S GENESIS PROJECT

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ABSTRACT

In the first quarter of 1994, the Genesis Project team commissioned a market research study to understand the wants and needs of local travelers in the Twin Cities area for an advanced traveler information system (ATIS). Additionally, the team required advice on recruiting pilot participants and ensuring effective tracking of the test data.

Research found that drivers had consistent views of the problems they faced in their daily travel around the Twin Cities. There was no major difference between commuters and itinerant professionals (i.e., those drivers who control their own schedule and whose daily routine depends on their use of a personal car). For most travelers, the issue was time – the scarcity of it and the need to plan around it. For an ATIS to be successful it must help users deal with the unanticipated delay caused by travel-related incidents such as accidents, bad weather, or construction. Commercial vehicle operators (CVOs) expressed a similar set of core needs and identified some additional needs as well. These additional needs focused on usability in a CVO environment and included special information needs associated with commercial vehicles (such as road restrictions, bridge clearances, etc.).

Most travelers in the study expressed a strong desire for real-time, in-vehicle information that could be accessed on demand. The preferred user interface was audio or graphical display. Current familiarity with and use of technology (such as cellular phones, lap top computers and pagers) did not alter the consumers' expectations for the interface device.

The Genesis experience also shows that market research is most valuable when given enough time and attention. Issues that tend to be raised by market research, such as who the target audience is and what features/functions are desired, can have a broad impact on the design and execution of an intelligent transportation systems (ITS) project. It is preferable to deal with these issues early in the development cycle when corrections can be made more easily and cost effectively.

This paper discusses the market research that was done for Genesis by focusing primarily on the findings and implications of the research and secondarily on methodology. It begins by discussing the project's background, specific objectives, and methodology. Next, it reviews the findings of the market research, including the issues travelers face, their information requirements, and Genesis ATIS design considerations. Finally, the paper explores some of the broader implications of managing a project such as Genesis or a program such as Guidestar.

INTRODUCTION

Background

Minnesota Guidestar is the program dedicated to developing and providing Minnesota's statewide intelligent vehicle/highway system. Minnesota Guidestar's mission is to transform the current transportation system into one with increased accessibility, greater productivity, enhanced safety, reduced environmental impacts, and broader private sector investments. The intent is to provide a statewide framework to mobilize multiple public and private sector organizations toward common goals.

The Genesis Project is within the Minnesota Guidestar program. Genesis is an ATIS that uses

AN ASSESSMENT OF RURAL TRAVELER NEEDS FOR *ITS* APPLICATIONS

R. Sivanandan
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Blacksburg, VA

Michael Sobolewski
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McLean, VA

ABSTRACT

Rural travel is characterized generally by long distances, unfamiliar territories, and varying environments that lead to safety concerns and the need for effective dissemination of information. Information needs range from trip routing to emergency communications. While numerous opinions exist on the subject of information needs, until now there has been no evidence indicating general information requirements and priorities. Realizing the importance of addressing rural transportation issues through intelligent transportation systems (ITS), the Advanced Rural Transportation Systems (ARTS) Committee of ITS America formed a task force to formally assess the rural traveler needs through the findings of studies conducted on the subject.

This paper was prepared by the task force and represents a concise synthesis of the following three studies conducted to assess rural traveler needs: (1) Federal Highway Administration (FHWA) Study on Rural Applications of Advanced Traveler Information Systems (ATIS), (2) Minnesota Guidestar's Rural Intelligent Vehicle-Highway System (IVHS) Scoping Study, and (3) I-70 Rural IVHS Corridor Planning and Feasibility Analysis. These studies attempted to define the needs of rural travelers in the context of potential ITS applications. While each had its own objectives, identification of rural traveler needs was common to all and was the most important of the tasks. The studies employed established survey mechanisms such as focus groups, regional meetings, interviews and telephone surveys to elicit traveler needs. All have concluded there is a clear need for traveler information in rural areas and have identified the user information needs and priorities perceived important by the travelers.

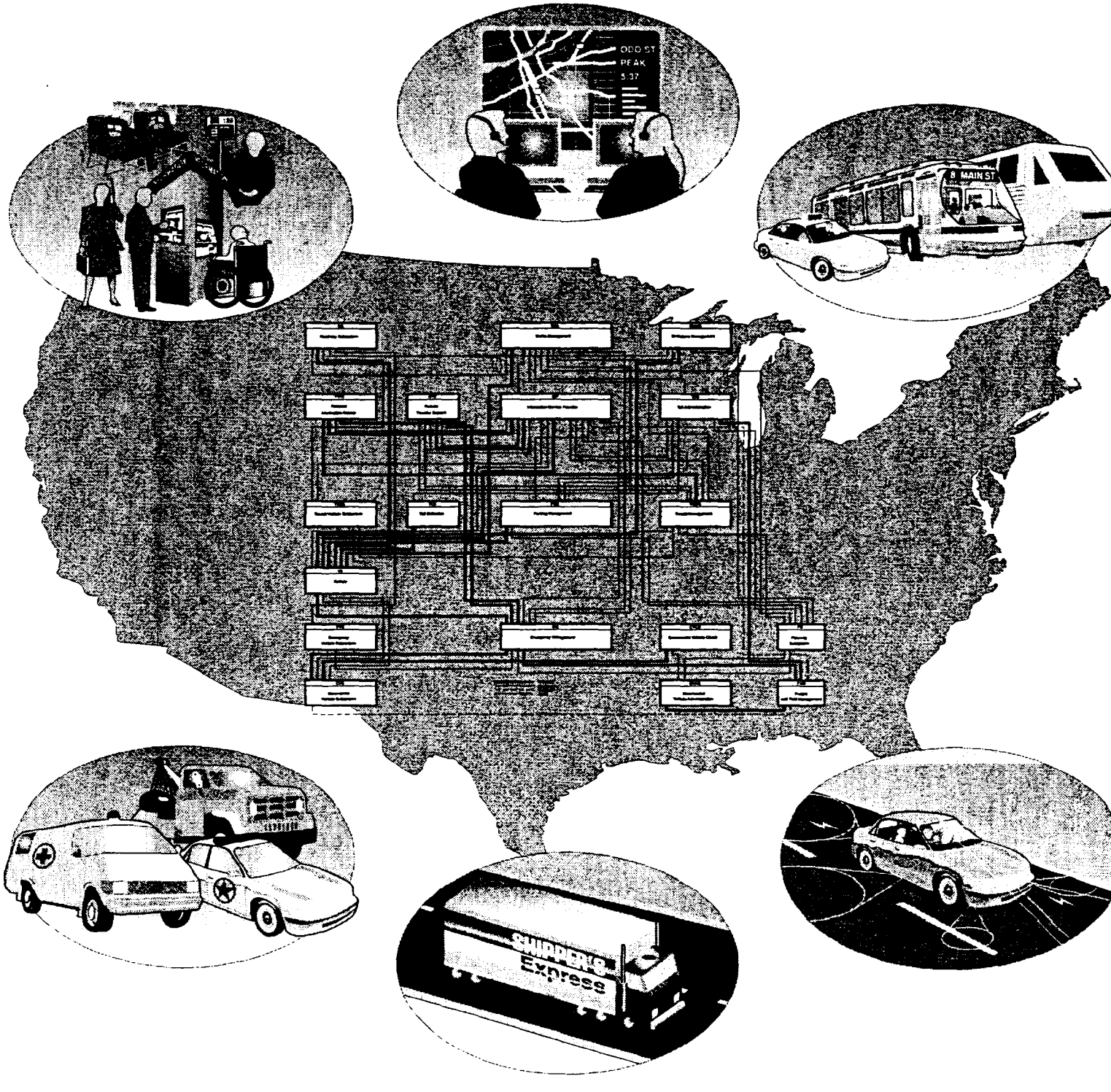
The assessments in each of the studies support and reinforce the findings of the others. The major rural traveler needs can be summarized to be the following: (1) Emergency assistance for stranded motorists, such as in-vehicle distress signals; (2) safety information, such as impaired driver alert systems, unsafe driving conditions, etc.; (3) pre-trip travel-related information such as trip routing, weather and road conditions; (4) en route information on congestion, work zones, detours, and weather conditions; (5) transit services and information; and (6) several other information needs unique to a rural traveler, such as tourist information, information about areas being transited, points of interest, location of automatic teller machines (ATMs), etc.

The perspectives of several other interest groups such as commercial vehicle operators, highway agencies, law enforcement agencies, park services, etc., have highlighted the rural traveler requirements, and issues related to provision of such information. Barriers to the provision of information were also identified. The studies

ATTACHMENT 9

US Department
of Transportation
Federal Highway Administration

ITS Architecture
Executive Summary



Joint Architecture Team
Lockheed Martin

JANUARY 199

ATTACHMENT 10

ITS America News

A Publication of the Intelligent Transportation Society of America

People Using Technologies in Transportation to Save Lives, Time and Money

September 1998 • Vol. 8 • No. 9

Access ITS at http://www.itsa.org

QUOTABLE QUOTE

"Our challenge in ITS is to see the future before it gets here. We must combine engineering and creativity. For me, they are mutually inclusive - as Walt Disney would say, we must become Imagineers." Antoinette Ford, president, TELSPAN International, and a member of ITS America's Board of Directors [p. 4].

Inside

House, Senate Add ITS Earmarks To Budget Plans for FY 1999

Congressional earmarks could become the predominant part of the federal ITS program over the next 12 months, depending on the final spending priorities in a compromise transportation appropriations bill likely to be introduced this month.

The House of Representatives and Senate in late July each passed fiscal year 1999 appropriations bills for the Department of Transportation that added costly earmarks, or priority projects, to the federal intelligent transportation systems program.

The House Appropriations Committee provided $98 million for 42 states, cities or counties. The Senate Appropriations Committee provided $84.1 million for 35 states, cities or counties.

TEA 21

The six-year Transportation Equity Act for the 21st Century (TEA 21) enacted in June authorized ITS-specific spending in two broad categories: (1) ITS standards, research, and operational tests

(Continued, p. 5)

Roger W. Gilroy-ITS America

General Motors last month introduced a night vision system that will be available on the model year 2000 Cadillac DeVille. The same sensor showed infrared images of Cadillac representatives (above) on a monitor in a pitch-black room during a media briefing [see related story, p. 10].

Attachment A

DOCUMENT OFF-LINE

This page has been substituted for one of the following:

o An oversize page or document (such as a map) which was too large to be scanned into the ECFS system.

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